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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/857,891	06/13/2001	Nobuyuki Katsuda	0425-0842P	2878

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BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER

FLEMING, FAYE M

ART UNIT	PAPER NUMBER
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3616

DATE MAILED: 11/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/857,891

Applicant(s)

KATSUDA ET AL.

Examiner

Faye Fleming

Art Unit

3616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 January 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-11 and 13-24 is/are rejected.
- 7) ☒ Claim(s) 4 and 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 15 January 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 5-11, 13-17 and 19-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bishop, et al (5,351,988) in view of Hamilton, et al (5,711,546) and further in view of Ludwig, et al (6,474,684).

Bishop, et al teaches a hybrid inflator 10 for an safety system of vehicles provided with an airbag (not shown) comprising an inflator housing 52; a gas generator 10 installed in the inflator housing; an ignition means 202 connected to the gas generator wherein the interior of the inflator housing is filled with a pressurized medium; and the gas generator has at least one gas generating chamber storing a gas generating agent 320. The gas generating agent includes a fuel and an oxidizing agent. The gas generating means is kept in a normal pressure atmosphere. Bishop, et al also teaches an activating signal outputting means comprising an impact sensor and a control unit and a module case in which the hybrid inflator and airbag are stored (see col. 4, lines 58-68). With respect to a molar ratio, it would have been obvious to one having ordinary skill in the art at the time the invention was made to set a ratio, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the

Art Unit: 3616

optimum or workable ranges involves only routine skill in the art. Bishop, et al discloses the claimed invention except for plurality of ports formed along the longitudinal direction of the gas generator. Hamilton, et al teaches a hybrid inflator comprising a gas generator having a plurality of ports 262 formed along the longitudinal direction. Based on the teachings of Hamilton, et al, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the gas generator of Bishop, et al to have a plurality of ports to provide communication between the propellants and the stored gas. Bishop, et al in view of Hamilton, et al discloses the claimed invention except for a guanidine derivative, a non-azide organic compound and an inflator housing made of steel. Ludwig, et al teaches a fuel being a guanidine derivative, the fuel is also a non-azide organic compound except the nitramine compounds. The inflator housing of Ludwig, et al is made of high strength steel. The gas generating agent 55 disclosed by Ludwig, et al is formed in a cylindrical shape. With respect to using a fuel of a guanidine derivative and using a gas generating agent having a pressure index less than 0.8, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the fuel and the gas generating agent, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. Regarding claims 21, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the inflator to be made of high strength steel having a tensile strength of not less than 60 kg/mm², since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. Based on the

Art Unit: 3616

teachings of Ludwig, et al, it would have been obvious to one having ordinary skill in the art at the time the invention was made modify the gas generating agents of the combination of Bishop, et al and Hamilton, et al to control the rate in which the airbag inflates and to modify the hybrid inflator of the combination of Bishop, et al and Hamilton, et al to be made of steel to provide stability and strength for the housing of the inflator.

3. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bishop, et al (5,351,988) in view of Hamilton, et al (5,711,546) and further in view of Kanda, et al (6,177,028).

Bishop, et al in view of Hamilton, et al teaches the claimed invention except for a slug-forming agent. Kanda, et al teaches a gas generator comprising a slug-forming agent. Based on the teachings of Kanda, et al, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the gas generating agent of the combination of Bishop, et al and Hamilton, et al to include a slug-forming agent to improve the effect of burning the gas generating agent.

Allowable Subject Matter

4. Claims 4 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Faye Fleming whose telephone number is (703) 305-0209. The examiner can normally be reached on M-F (9:00-5:00).

Art Unit: 3616

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Dickson can be reached on (703) 308-2089. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

Faye Fleming
Examiner
Art Unit 3616

Handwritten signature of Faye Fleming, dated 4/14/03.